CLAIMS

1. Use, in a gas production region, of a purified field gas G in which:

a) at least a fraction G1 of said gas G is converted to obtain a stream of hydrogen (H_2);

b) a conventional fluid transportable crude oil P1 with a pour point of 0°C or less, comprising a vacuum residue with a sulphur content of more than 1% by weight, is selected and supplied via a unheated pipeline or unheated oil tanker;

c) said oil P1 is treated in a hydrocarbon treatment facility (I), carried out substantially without carbon discharge, the treatment comprising

- at least one desulphurizing treatment step by hydrotreatment (HDT, RHDT) or hydroconversion (HDC, RHDC) or hydrocracking (HDK) of at least a fraction of the oil P1, said fraction mainly comprising compounds with a boiling point of more than 343°C, said step consuming at least a fraction of the stream H_2;
- at least one step, which may be communal with or separate to said desulphurizing treatment step, for reducing the quantity of vacuum residue included in the oil P1, by segregation of a part or the whole vacuum residue, optionally with conversion of a part of said vacuum residue, in which complete segregation of at least the asphaltenes of said vacuum residue is carried out;

so as to produce:

- at least one pre-refined oil P_A comprising compounds derived from the desulphurizing treatment step, said pre-refined oil P_A being substantially free of asphaltenes, having a sulphur content that is reduced by at least 50% and a vacuum residue content with a sulphur content of more than 1% by weight which is zero or reduced by at least 15% with respect to the oil P1,

- and at least a segregated fraction comprising at least the major portion of the asphaltenes, optionally cracked and/or supplemented with other fractions from P1, in the form of a liquid heavy fuel, or a residual oil P_B which is liquid at ambient temperature as an oil refinery feedstock intended to be refined in an oil refinery.

d) and said pre-refined oil PA is evacuated to an oil port as an oil refinery feedstock intended to be refined in an oil refinery which is distinct and distant from the facility (I).

2. Use of a gas according to claim 1, in which said segregated fraction is said residual oil P_B which is liquid at ambient temperature as an oil refinery feedstock intended to be refined in an oil refinery, P_B comprising at least five cuts from the group formed by: light naphtha, heavy naphtha, kerosene, gas oil, diesel, vacuum gas oil, vacuum residue, and comprising at least 3% of its total weight in at least 5 of said cuts.

3. Use of a gas according to one of claims 1 and 2, in which one of the two oils P_A, P_B differs from the other by at least 15% in at least one of the following parameters: the percentage by weight of kerosene, the percentage by weight of diesel, the percentage by weight of vacuum residue containing more than 1.25% by weight of sulphur.

4. Use of a gas according to one of claims 1 to 3, in which the oil fraction P_A boiling above 343°C is a desulphurized fraction with a sulphur content of less than 1% by weight, derived from said desulphurizing treatment (HDC, HDT, HDK).

5. Use of a gas according to one of claims 1 to 4, in which said treatment comprise at least one catalytic step, carried out over a solid supported hydrotreatment, hydroconversion or hydroconversion catalyst, for at least a fraction of the feed comprising compounds with a boiling point of more than 371°C

6. Use of a gas according to one of claims 1 to 5, in which:

- at least an atmospheric distillate, a vacuum distillate and a vacuum residue are produced by atmospheric distillation and vacuum distillation of the oil P1;
- at least a portion of said vacuum residue is deasphalted to obtain a deasphalted oil and asphalt;
- said desulphurizing treatment (HDC, HDT, HDK) is carried out on the vacuum distillate and the deasphalted oil, separately or as a mixture, to obtain an effluent with a sulphur content of less than 1% by weight;
- said pre-refined oil P_A which is substantially free of asphaltenes and comprises no vacuum residue with a sulphur content of more than 1% by weight is reconstituted from at least a portion of the effluents from said desulphurizing treatment and at least a portion of the atmospheric distillate.

7. Use of a gas according to one of claims 1 to 6, in which:

- at least an atmospheric distillate, a vacuum distillate and a vacuum residue are produced by atmospheric distillation and vacuum distillation of the oil P1;
- at least a portion of said vacuum residue is deasphalted to obtain a deasphalted oil and asphalt;
- a residual oil P_B comprising at least the major portion of the asphalt obtained along with a limited quantity of relatively lighter fractions is produced so that the asphaltenes content of the vacuum residue of the oil P_B is greater than that of the vacuum residue of the oil P1 by at least 20%, said content preferably being greater than 12% by weight or even than 14% by weight.

8. Use of a gas according to claim 7, in which said relatively lighter fractions are derived from the treatment of oil P1 and comprise a portion of the effluents from said desulphurizing treatment.

9. Use of a gas according to claim 7, in which said relatively lighter fractions are principally composed of crude oil.

10. Use of a gas according to one of claims 1 to 6, in which:

- at least an atmospheric distillate, a vacuum distillate and a vacuum residue are produced by atmospheric distillation and vacuum distillation of the oil P1;
- the vacuum residue is converted by catalytic hydroconversion (RHDC), and one or more fractions from the oil P1 is optionally added to the effluents from said catalytic hydroconversion to produce said residual oil P_B.

11. Use of a gas according to one of claims 1 to 6, in which:

- at least an atmospheric distillate and an atmospheric residue is produced by atmospheric distillation of the oil P1;
- the atmospheric residue is converted by catalytic hydroconversion (RHDC);
- at least a portion of the effluents from said catalytic hydroconversion is fractionated into one or more non residual fractions to form the refined oil P_A by mixing, after adding at least a portion of said atmospheric distillate, optionally desulphurized, and adding the complementary portion of the effluents from the treatment of the oil P1 to produce the residual oil P_B.

12. Use of a gas according to one of claims 1 to 11, in which no combustion nor gaseification nor evacuation of asphalt, nor coke forming process is carried out, and in which the liquid yield is over 97 % by weight.

13. Use of a gas according to one of claims 1 to 11, in which:

- at least an atmospheric distillate, a vacuum distillate and a vacuum residue is produced by atmospheric distillation and vacuum distillation of the oil P1;
- said residue is deasphalted to obtain a deasphalted oil and asphalt;
- said desulphurizing treatment (HDC, HDT, HDK) is carried out on the vacuum distillate and the deasphalted oil, used alone or as a mixture, to obtain an effluent having a sulphur content of less than 1% by weight;

- said pre-refined oil P_A which is substantially free of asphaltenes and comprises no vacuum residue with a sulphur content of more than 1% by weight is reconstituted from at least the major portion of the effluents from said desulphurizing treatment and from atmospheric distillation;
- the major portion or, preferably, all of the asphalt, preferably fluxed, is burned as a fuel for facility (I) and/or for a power station and/or for a seawater desalination plant.

14. Use of a gas according to one of the preceding claims, in which at least a portion of the CO_2 co-produced during conversion of the gas G1 to hydrogen is recovered and said CO_2 is injected underground into the gas production region close to the facility (I).

15. Use of a gas according to claim 14, in which the CO_2 is injected into an oil and/or gas field to sequestrate said CO_2 and/or to carry out assisted oil recovery.

16. Use of a gas according to claim 6, in which the CO_2 is injected into an oil field, for example a depleted field to carry out assisted oil recovery.

17. Pre-refined oil P_A produced by the gas use according to any one of claims 1 to 16.

18. Residual oil P_B produced by the gas use according to any one of claims 1 to 16.